

Environmental Equity and Urban Travel Surveys

Travel surveys are widely used by local, regional, and state governments to determine the behavior, opinions, and preferences of citizens. The behavior data, collected primarily through household travel surveys, are used in travel demand forecasting model development. These models form the foundation of regional transportation planning and air quality conformity analyses. The opinion and preference data are used to gauge public sentiment on important issues such as transit needs, transportation infrastructure improvements and other projects dependent upon tax revenues. Given that travel surveys will continue to be an important way of obtaining information needed for transportation planning and decision-making, it is critical that these data accurately represent the survey populations.

Urban areas in the U.S. are characterized by concentrations of persons of various racial/ethnic origins, immigrants, non-English speakers, multiple-job workers, households without telephones, low-income households, persons age 65 and older, and individuals with disabilities. At the same time, urban travel survey data sets are known to under-represent the aforementioned population sub-groups. The lack of equitable representation of diverse population groups is problematic not only because their “voices” should be considered in transportation planning and decision-making but also because their growing numbers and unique travel behaviors will significantly impact future urban trip-making. Thus, it is important that the transportation planning community examine the causes of this lack of representation, understand both the short-comings in current travel survey methods and the cultural or social characteristics of these population sub-groups that contribute to non-participation in travel surveys, and identify ways to compensate for these factors with both innovative survey methods and rigorous statistical manipulation.

Proposed Research

The objectives of the research are:

- To quantify the degree to which diverse population are under-represented in urban travel surveys;
- To examine linguistic, cultural, and lifestyle barriers to participation in travel surveys;
- To identify survey methods that will increase participation among these population sub-groups;

- Determining the degree to which urban population sub-groups have been under-represented in urban travel surveys;
- Testing and comparing alternative methods to increase awareness of upcoming travel surveys and the importance of participation of these sub-groups, such as community or church groups, door-to-door, billboards, and population-specific channels;
- Customizing survey instruments in terms of age, language, literacy, culture, etc.
- Using various data collection methods such as in-person, in-home, mail-back, Internet, and telephone to determine how sub-group participation rates vary by method;
- Developing ways to expand and use data collected from members of the under-represented populations.

The resultant product should be able to answer the following questions:

- What methods inherent in urban travel surveys contribute to under-representation of particular population sub-groups?
- What are the linguistic, cultural, or lifestyle reasons for non-participation among these population groups?
- What are effective survey strategies and tactics for increasing the representation of diverse groups in urban travel surveys?
- What statistical techniques can be employed to compensate in an equitable manner for the under-representation of these sub-groups?